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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,846	06/21/2001	Gwo Shin Swei	D-3995 (3090.1002-000)	6240

7590 09/30/2002

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EXAMINER

BISSETT, MELANIE D

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 09/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/886,846

Applicant(s)

SWEI ET AL.

Examiner

Melanie D. Bissett

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other:

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 6-7, 14, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. The term "high molecular weight" in claims 6-7, 14, and 17 is a relative term which renders the claim indefinite. The term "high molecular weight" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

### ***Summary of the Claims***

4. Claim 1 is drawn to a coated abrasive belt comprising a strip of coated abrasive and a joint adhesive formed from a blocked isocyanate urethane system. Claim 8 is drawn to a method for forming a coated abrasive belt by providing a coated abrasive strip and joining the ends with an adhesive comprising a blocked isocyanate urethane system. Claim 12 is drawn to a method for forming a coated abrasive belt by joining ends of a belt together with an adhesive comprising a blocked isocyanate urethane system. Claim 13 is drawn to a method for forming a coated abrasive belt by forming a blocked isocyanate urethane system adhesive including a blocked isocyanate

Art Unit: 1711

terminated polyurethane prepolymer, joining ends of a strip of coated abrasive with the adhesive, and heating the strip to cure the adhesive by crosslinking the blocked isocyanate with a polyamine or polyol. Claim 14 is drawn to a method for forming a coated abrasive belt by forming a blocked isocyanate polyurethane system adhesive including a high molecular weight polyurethane having hydroxyl functionality, joining ends of a strip of coated abrasive with the adhesive, and heating the strip to cure the adhesive by crosslinking the hydroxyl-containing polyurethane with a blocked isocyanate. Claim 15 is drawn to a method for forming a coated abrasive belt comprising forming a blocked isocyanate urethane system adhesive by mixing two components, joining the ends of a coated abrasive strip with the adhesive, and heating the strip to cure the adhesive. Claim 2 limits the blocking agent and claims 3-7, 9-11, and 16-17 limit components in the adhesive.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, 4-8, and 10-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Gladstone et al. as evidenced by Borsellino et al.

7. Gladstone discloses an adhesive system for joining overlapped ends of a coated abrasive article comprising a component having free isocyanate groups, a hydroxyl

Art Unit: 1711

terminated polyurethane polyester, and a member containing active hydrogen groups (abstract). Thus, the composition comprises an alcohol, more specifically a polyol, by the inclusion of the hydroxyl terminated polyurethane polyester prepolymer. Possible active hydrogen containing members include polyester- and polyether-polyurethane isocyanate blocked prepolymers (col. 6 lines 1-27). It is the examiner's position that both active hydrogen-containing components, because they are prepolymers, would be considered "high molecular weight". The reference notes suitable molecular weights of the hydroxyl terminated polyurethane polyesters to be between 2,000 and 4,000 (col. 5 lines 30-37). Gladstone teaches a method of providing the adhesive as a film on a coated abrasive strip, joining the ends of the strip, and heating the adhesive to cure the components (col. 9 lines 21-45). Both high molecular weight polyurethane prepolymers containing hydroxyl functionality and high molecular weight polyurethane blocked isocyanate prepolymers are present in the adhesive for crosslinking.

8. Gladstone teaches the urethane isocyanate blocked prepolymers, believing that the prepolymers are disclosed in prior patents. However, Gladstone does not mention the blocking agents used in the prepolymers. The Borsellino reference, referred to by Gladstone, teaches polyurethane isocyanate blocked prepolymers, where the isocyanates are blocked with imine, oxime, or ketoxime blocking agents (col. 3 lines 28-55). Thus, Gladstone suggests the use of such prepolymers blocked with oxime blocking agents.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gladstone et al.

11. Gladstone teaches that active hydrogen containing components include isocyanate blocked prepolymers and amine-functional components (col. 6 lines 1-27). However, the reference does not exemplify the use of both compounds together. The shelf life can be optimized by choosing different compounds. It is the examiner's position that it would have been prima facie obvious to choose combinations of preferred materials, including an isocyanate blocked prepolymer and an amine-functional component, by conventional experimentation to optimize shelf life of the adhesive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (703) 308-6539. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

Application/Control Number: 09/886,846

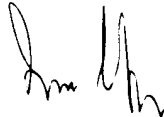
Page 6

Art Unit: 1711

872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

mdb  
September 25, 2002



James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700